Computing Policy

Introduction

The use of computers and computer systems is an integral part of the National Curriculum and knowing how they work is a key life skill. In an increasingly digital world there now exists a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content. At Sedgefield Primary School we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to the learning of: how computer systems work, the use of IT and the skills necessary to become digitally literate and participate fully in the modern world. The purpose of this policy is to state how the school intends to make this provision.

Aims

The school's aims are to:
- Provide a broad, balanced, challenging and enjoyable curriculum for all pupils.
- Develop pupil's computational thinking skills that will benefit them throughout their lives.
- Meet the requirements of the national curriculum programmes of study for computing at Key Stage 1 and 2
- To respond to new developments in technology
- To equip pupils with the confidence and skills to use digital tools and technologies throughout their lives.
- To enhance and enrich learning in other areas of the curriculum using IT and computing.
- To develop the understanding of how to use computers and digital tools safely and responsibly.

The National Curriculum for Computing aims to ensure that all pupils:
- can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- are responsible, competent, confident and creative users of information and communication technology.

Rationale

The school believes that IT, computer science and digital literacy:

- are essential life skills necessary to fully participate in the modern digital world.
- allows children to become creators of digital content rather than simply consumers of it.
- provides access to a rich and varied source of information and content.
- communicates and presents information in new ways, which helps pupils understand, access and use it more readily.
- can motivate and enthuse pupils.
- offers opportunities for communication and collaboration through group work.
- has the flexibility to meet the individual needs and abilities of each pupil.

Objectives

Early Years
- It is important in the foundation stage to give children a broad, play-based experience of IT and computing in a range of contexts, including indoor and outdoor play.
- Computing is not just about computers. Early years learning environments should feature IT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities such as 'programming' each other using directional language to find toys/objects, creating artwork using digital drawing tools and controlling programmable toys.
- Outdoor exploration is an important aspect and using digital recording devices such as video recorders, cameras and microphones can support children in developing communication skills. This is particularly beneficial for children who have English as an additional language.

By the end of key stage 1 pupils should be taught to:
- understand what algorithms are, how they are implemented as programs on digital devices, and that programs follow a sequence of instructions
- write and test simple programs

- use logical reasoning to predict the behaviour of simple programs
- organise, store, manipulate and retrieve data in a range of digital formats
- communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

By the end of key stage 2 pupils should be taught to:
- design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs
- use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration
- describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Resources and access

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards consistent, compatible computer systems by investing in resources that will effectively deliver the objectives of the National Curriculum and support the use of IT, computer science and digital literacy across the school. Teachers are required to inform the computing subject leader of any faults as soon as they are noticed. A service level agreement is currently in place to help support the subject leader to fulfil this role both in hardware & software.
- Every classroom has a computer connected to the school network and an interactive whiteboard.
- There are 15 30 iPads stored in a trolley in the Year 6 2 classroom.
- There are laptops in each classroom and 20 in a trolley, stored in the KS2 corridor.
- Internet access is available in all classrooms.
- Pupils may use IT and computing independently, in pairs, alongside a TA or in a group with a teacher.
- A designated governor has been assigned to computing.

Assessment and record keeping

Teachers regularly assess progress through observations and evidence. Key objectives to be assessed are taken from the National Curriculum to assess computing each term. Once the children complete a unit of work, we make a summary judgment of the work for each pupil as to whether they are working towards, working at, or exceeding the National Standard for the unit. The Computing assessment document is in the same format as that used for other areas of the curriculum.

Monitoring and evaluation

The subject leader is responsible for monitoring the standard of the children's work and the quality of teaching in line with the schools monitoring cycle. This may be through lesson observations, pupil discussion and evaluating pupil work.
Pupils with special educational needs
We believe that all children have the right to access IT and computing. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the computing curriculum for some pupils.
We teach IT and computing to all children, whatever their ability. Computing forms part of the national curriculum to provide a broad and balanced education for all children. Through the teaching of computing we provide opportunities that enable all pupils to make progress. We do this by setting suitable challenges and responding to each child's individual needs. Where appropriate IT can be used to support SEN children on a one to one basis where children receive additional support.

Equal Opportunities (see also Inclusion and Equality & Diversity Policies)

We will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to computing and all staff members follow the equal opportunities policy. Resources for SEN children and more able & talented will be made available to support and challenge appropriately.

The role of the Subject Leader
The computing subject leader is responsible for the implementation of the computing policy across the school. Their role is to:

- offer help and support to all members of staff in their teaching, planning and assessment of computing.
- maintain resources and advise staff on the use of digital tools, technologies and resources.
- monitor classroom teaching or planning in line with school procedures.
- monitor the children's progression in computing.
- manage the computing budget.
- keep up-to-date with new technological developments and communicate information and developments with colleagues
- lead staff training on new initiatives.
- attend appropriate in-service training
- keep parents and governors informed on the implementation of computing in the school.

The role of the class teacher

Individual teachers will be responsible for ensuring that pupils in their classes have opportunities for learning computing and using their knowledge, skills and understanding of computing across the curriculum. The class teacher's role is a vital role in the development of computing throughout the school and will ensure continued progression in learning and understanding, and create effective learning environments.
The class teacher will also:
- provide equality of opportunity using a range of teaching approaches and techniques
- use appropriate assessment techniques and approaches
- maintain up to date assessment records.

Staff training

The computing subject leaders will assess and address staff training needs as part of the annual development plan process or in response to individual needs and requests throughout the year.
Individual teachers should attempt to continually develop their own skills and knowledge, identify their own needs and notify the subject leader.